APRIL/MAY 2025

23USEL13 — ELECTRONIC COMMUNICATION SYSTEMS (SEC)

Time : Three hours | Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

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1. Define folded dipole.

2. What is meant by parabolic Antennas?

3. Compare ground wave and sky wave propagation.

4. What do you mean by maximum usable frequency?

5. Why modulation in necessary in signal processing?

6. What is the function of transmitter and receiver?

7. Define frequency modulation.

8. Write the condition for the wave to undergo frequency modulation.

9. What is PAM?

10. Give the two limitations of PCM.

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SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the term efficiency and directive gain in antennas.

Or

(b) Illustrate the working principle of Uda and helical antenna networking.

12. (a) Write a short note on skip distance.

Or

(b) Explain the theory of wave propagation.

13. (a) What is the purpose of modulation? And give the theory of propagation of modulated wave.

Or

(b) Explain the process of amplitude modulation.

14. (a) Derive the expression for modulate wave.

Or

(b) Describe the method of frequency modulation.

15. (a) State and explain the sampling theorem.

Or

(b) Compare and contract PWM and PPM.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Define the working principle of antenna and explain various types of antennas.

17. Write the propagation theory of ground wave, sky wave and space wave.

18. Discuss the working function of AM radio transmitter and super heterodyne receiver.

19. Sketch the block diagram and explain the function of FM transmitter and receiver.

20. Explain the following terms PAM and PCM in detail.

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